

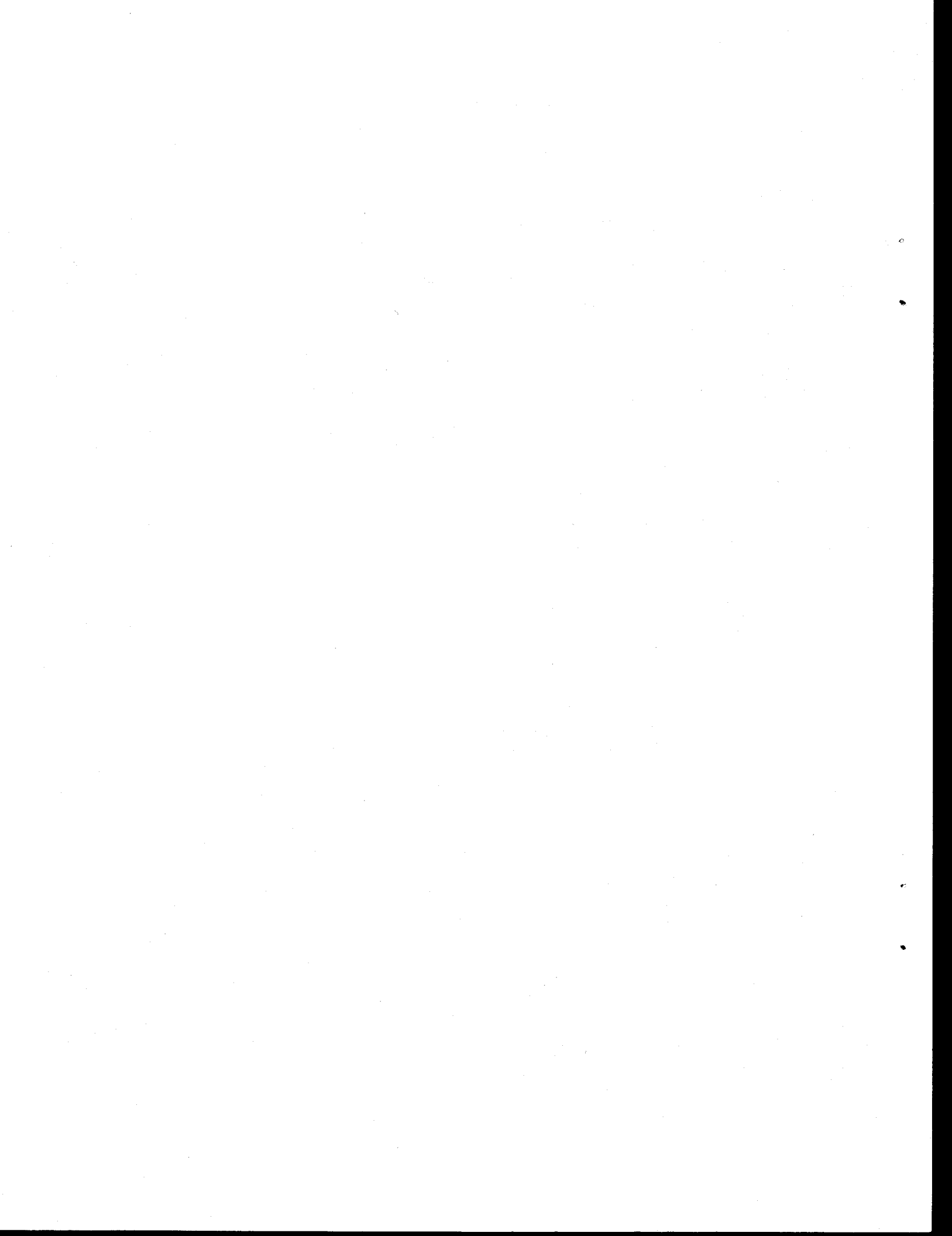
**PROPOSED AMENDMENT 7  
(BY-CATCH OF NON-GROUNDFISH SPECIES)  
TO THE PACIFIC COAST GROUNDFISH PLAN**

**INCLUDING  
DRAFT ENVIRONMENTAL ASSESSMENT,  
REGULATORY IMPACT REVIEW, AND  
PROPOSED CHANGES  
TO THE FISHERY MANAGEMENT PLAN**

**Adopted by  
The Pacific Fishery Management Council  
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**Prepared by Council Staff and  
the Groundfish Management Team**

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## 1.0 INTRODUCTION

The domestic and foreign groundfish fisheries in the exclusive economic zone of the United States (3 to 200 miles offshore) in the Pacific Ocean off the coasts of Washington, Oregon, and California are managed under the Pacific Coast Groundfish Plan and Environmental Impact Statement developed by the Pacific Fishery Management Council (Council) under the Magnuson Fishery Conservation and Management Act (MFCMA). It was approved by the Assistant Administrator for Fisheries, National Oceanic and Atmospheric Administration (NOAA) on January 4, 1982 and became effective on September 30, 1982. Implementing regulations were published in the Federal Register on October 5, 1982 (at 47 FR 43964) and appear at 50 CFR 663 and Part 675. Six amendments to the fishery management plan (FMP) have been implemented. The fourth amendment substantially replaced the original document by updating all sections and incorporating the previous three amendments. This document describes and assesses the potential effects of changes that constitute Amendment 7 to the FMP.

### 1.1 Background

The Pacific coast groundfish fishery employs a variety of gears to harvest numerous species of groundfish. The prosecution of these fisheries often results in some level of incidental harvest of non-groundfish species, such as salmon. The FMP does not currently provide the Council with the authority to regulate groundfish fisheries to control the harvest of non-groundfish species. The Council did not consider this lack of authority to be a problem; the established policy was to prohibit retention of non-groundfish species (all salmonids, Pacific halibut and Dungeness crab) but not to impose specific limits or regulations to directly control the number of animals killed or captured. The only comprehensive data on by-catch of these species came from the National Marine Fisheries Service (NMFS) foreign vessel observer program monitoring the foreign and joint venture Pacific whiting (hake) fisheries. By-catch of Pacific halibut was generally *de minimis*, while salmon by-catch (primarily chinook) varied widely from year to year, sometimes reaching substantial levels. Fishers responded to the high salmon by-catch that occurred in 1986 by adopting voluntary measures to reduce and control salmon by-catch levels. They have succeeded in maintaining recent by-catch rates at historically low levels.

In recent years, a growing public concern over depletion and unnecessary death of various species has resulted in a closer scrutiny of the factors associated with these declines. The fishery resources and other marine resources, as public property, have received increased attention, often in association with perceived impacts on marine mammal and other populations. In response to depletions of important marine fish populations, the NOAA Guidelines for FMPs were amended to require each regional council to adopt overfishing definitions and standards to measure the impacts of management policies and fishing activities for each FMP in its jurisdiction. The Council's salmon FMP was amended to establish an overfishing definition. More recently in the Pacific region, some salmon populations have been listed as threatened or endangered under the Endangered Species Act (ESA), and there is the potential for other marine species to be listed in the future. Where a direct connection between the status of a non-groundfish species and a groundfish fishery is established, the Council and Secretary of Commerce (Secretary) must have the authority to modify groundfish management to accommodate the needs of that species.

The first time this issue came to the forefront was in 1991 when the Council was considering severely restricting salmon fishing to reduce the harvest of Sacramento River winter-run chinook salmon and

Klamath River chinook stocks. Salmon fishers, remembering the large numbers of chinook salmon taken by foreign and joint venture whiting fisheries in 1986, petitioned for restrictions on the whiting fishery so that savings generated by the salmon fishery would not be nullified by groundfish operations. The Council responded by recommending voluntary measures to reduce salmon by-catch in the whiting fishery. Further reductions in the salmon fishery in 1992 increased the pressure on the Council to take stronger action; however, the lack of authority in the FMP meant the only avenue open to the Council was an emergency rule. A 90-day emergency rule to control salmon by-catch in the Pacific whiting fishery was implemented in April 1992 and extended an additional 90 days as allowed in the MFCMA. Emergency rules are by definition of limited duration and are therefore not the most effective means to address issues which are likely to persist from year to year. There is also a degree of uncertainty associated with their approval and implementation. Also, the MFCMA and the Administrative Procedures Act prevent repeated use of emergency rules to address the same issue.

On August 28, 1992, NMFS issued an ESA Biological Opinion on the impact of the groundfish bottom trawl and whiting fisheries on four species of salmon listed under the ESA. The incidental take statement requires there be no target fishing for whiting inside the 100 fathom contour in the Eureka management area. In order to comply with this mandate, the Council must establish the management authority to take such actions and subsequently recommend implementation of fishing restrictions. Consequently, the Council is pursuing an amendment for the purpose of establishing the authority to implement regulations controlling the by-catch of non-groundfish species taken incidentally in directed groundfish fisheries. The Council intends the authority to be limited to conservation purposes or to achieve statutory requirements (such as ESA and Marine Mammal Protection Act [MMPA]) but not to provide a basis for addressing allocation disputes.

## 1.2 Purpose of the Public Hearing Package

### 1.2.1 Environmental Assessment (EA)

One part of this public hearing package is the EA which is required by NOAA in compliance with the National Environmental Policy Act (NEPA) of 1969. An EA analyzes the impacts of major federal actions on the quality of the human environment. It serves as a means of determining if significant environmental impacts could result from a proposed action and describes those potential impacts. It is the basis for determining whether a Supplemental Environment Impact Statement (EIS) must be prepared. A Supplemental EIS must be prepared if the proposed action may be reasonably expected to (1) jeopardize the productive capability of the target resource species or any related stocks that may be affected by the action, (2) allow substantial damage to the ocean and coastal habitats, (3) have a substantial adverse impact on public health or safety, (4) affect adversely an endangered or threatened species or a marine mammal population, or (5) result in cumulative effects that could have a substantial adverse effect on the target resource species or any related stocks that may be affected by the action. This EA is prepared to analyze the possible impacts of management measures and their alternatives that are contained in draft Amendment 7. It concludes there will not be a significant impact on the human environment from the proposed action or alternatives.

In general, some management measures impact the environment. Such measures are those directed at harvests of stocks and may occur either directly from the actual harvests (e.g., removal of fish from the ecosystem) or indirectly as a result of harvest operations (e.g., effects of bottom trawling on the benthos [animals and plants living on or in the bottom substrate]). Environmental impacts of management measures may be beneficial when they accomplish their intended effects (e.g., prevention

of overharvesting stocks as a result of harvest limitations, or reduction of unintentional injury or death to non-target species). Conversely, such impacts may be harmful when management measures do not accomplish their intended effects (e.g., overharvesting occurs when management measures do not adequately control fishing mortality). The extent of the harm is dependent on the amount of overharvest that occurs. For purposes of this EA, the term "overfishing" is that which is described in the NOAA 602 Guidelines (50 CFR 602.11.c[9]), which were incorporated into the FMP by Amendment 5. It is "a level or rate of fishing mortality that jeopardizes the long term capacity of a stock or stock complex to produce maximum sustainable yield on a continuing basis." Environmental impacts that may occur as a result of fishery management practices are categorized as changes in predator-prey relations among invertebrates and vertebrates, including marine mammals and birds; physical changes as a direct result of on-bottom fishing practices; and nutrient changes due to processing and dumping of fish wastes. If more or less groundfish biomass is removed from the ecosystem, then adjustments occur in the ecosystem until a new equilibrium is established.

A detailed description of each major species is provided in Section 11 of the FMP, along with a discussion of the habitat requirements, the Council's habitat preservation policy, and the groundfish overfishing standards.

#### 1.2.2 Regulatory Impact Review (RIR)

Another part of the package is the RIR that is required by NOAA for all regulatory actions or for significant Department of Commerce/NOAA policy changes that are of public interest. An RIR (1) provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action, (2) provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problems, and (3) ensures the regulatory agency systematically and comprehensively considers all available alternatives so the public welfare can be enhanced in the most efficient and cost effective way.

An RIR also serves as the basis for determining whether any proposed regulations are major under criteria provided in Executive Order 12291 (EO 12291) and whether or not proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act (PL 96-354, RFA). The primary purpose of the RFA is to relieve small businesses, small organizations, and small governmental jurisdictions (collectively called "small entities") of burdensome regulatory and recordkeeping requirements. This act requires an analysis of the impacts of the proposed rule on small entities unless the head of the agency certifies that the requirement, if promulgated, will not have a significant effect on a substantial number of small entities.

This RIR provides a description and an estimate of the number of vessels (small entities) to which regulations implementing the amendment would apply. This RIR concludes that there will be no direct regulatory impact from approval of this proposed amendment; therefore, there is no impact on small entities. The proposed FMP amendment would result in revision of the appendix to the federal regulations; however, the revision will only broaden the authority for future regulatory actions. No fishing restrictions are imposed by this action. Future restrictions on fishing activities implemented under this authority will be reviewed and analyzed in accordance with the RFA and EO 12291 on a case by case basis as they are proposed.

### 1.3 Description of the Domestic Groundfish Industry Operating in the Washington, Oregon, and California Area

Section 11.3 of the FMP (Social and Economic Characteristics of the Fishery) provides a more detailed discussion of the business firms that directly utilize the groundfish resources of the region. U.S. commercial firms exploiting groundfish include commercial fishing vessels employing a wide variety of gear and delivering product to shoreside processors and processing vessels; vessels that both catch and process fish; party/charter vessels for recreational fishing; and fish processing firms, both shoreside and floating. In addition, other industries provide materials and equipment to support these businesses.

#### 1.3.1 Fishing Fleet

There is no federal groundfish permit requirement in the Washington, Oregon, and California fishery at this time, although such permits have been recommended by the Council and will be implemented in the near future. Prior to implementation of permit requirements, including the license limitation program, it is not possible to accurately determine the number of vessels landing groundfish in the region. According to the analysis for the Council's license limitation program (FMP Amendment 6), approximately 1,000 vessels are expected to qualify for "A" permits beginning in 1994, based on minimum landing requirements. This includes 388 trawl vessels meeting either the non-whiting or whiting trawl minimum landing requirements, 229 longline vessels, 42 pot/trap vessels, and approximately 410 vessels using line gears. Of the 388 trawl vessels, approximately 66 are expected to qualify on the basis of just their whiting landings, although some would also qualify on the basis of other groundfish landings as well.

A total of 55 vessels made landings of Pacific whiting to foreign processors at sea (joint ventures) during the 1984-1988 window period. In addition to the joint venture fleet, 98 vessels had shoreside landings of whiting during the window, though many of these vessels landed very small quantities. In 1989, approximately 47 vessels made joint venture landings and 20 delivered whiting to shore-based processors. In 1992, at least 20 vessels made whiting deliveries to shore-based processors.

In 1991 and 1992, approximately 21 American processing vessels participated in the Pacific whiting fishery. An additional 40 have the potential to enter the fishery in 1993, although it is doubtful many new vessels will choose to participate. Of these 21 processing vessels, all but three are catcher-processors. When the license limitation program takes effect in 1994, the Council anticipates that no catcher-processor will qualify for initial issuance of a permit.

#### 1.3.2 Processing

##### 1.3.2.1 Offshore Processing

Prior to 1989, there were no domestic vessels that both harvested and processed their catches (catcher-processor vessels) with the exception of a few pot/trap vessels fishing for sablefish. However, beginning in the late fall of 1990, the at-sea processing of whiting aboard U.S.-registered vessels has increased dramatically, resulting in elimination of foreign processing in a single year. In 1991 and 1992, the largest portion of the harvest was processed by American processing ships.



### 1.3.2.2 Shoreside Processing

In 1989, 121 potential groundfish processors were identified by port samplers and NMFS Fishery Market News Service. Of these, 106 were independent of the others (52 in Washington, 23 in Oregon, and 31 in California). In answer to a subsequent survey administered by the Council, 81 percent (60 of 74) of the individuals responding identified themselves as groundfish processors. The breakdown by state was 31 of 39 in Washington, 13 of 18 in Oregon, and 16 of 17 in California.

### 1.3.3 Support Industries

In 1989, in response to a Council request, Sea Grant extension agents in Washington, Oregon, and northern California identified 276 firms directly involved in groundfish fishery support activities (exclusive of processors). Another indicator of the number of firms which may supply inputs to the fishing industry is the NYNEX Commercial Marine Directory. This directory lists 1,284 firms for Washington and Oregon and includes suppliers of cable and rope, steel, and valves as well as accountants and architects who cater to the commercial marine industries. Some of these firms may cater more to commercial marine industries other than fishing. There is currently no commercial marine directory for California.

### 1.4 Purpose of and Need for Action

The groundfish fishery results in some level of incidental harvest of other species. The FMP currently does not contain authority to implement regulations for by-catch control purposes. The Council wants to control the by-catch of salmon in the whiting fishery, and may need to implement other regulations in the future. It also needs the authority to respond in a timely manner to requirements under the ESA to ensure that its actions are not likely to jeopardize a listed species.

The recent emergency rule implementing measures designed to minimize salmon by-catch in the at-sea whiting fishery expired on October 19, 1992. Specifically, these measures were: no at-sea processing of whiting south of 42°N latitude, no whiting fishing between midnight and one-half hour after official sunrise, no whiting fishing in the Klamath River mouth salmon conservation zone and the Columbia River salmon conservation zone, and a limitation on landings of whiting caught inside the 100 fathom contour in the Eureka management area. An emergency rule is a temporary solution. The Council needs the authority of this amendment to continue to control salmon by-catch in the whiting fishery.

Additionally, if by-catch or related conservation problems arise in other groundfish fisheries, the Council may desire to control by-catch of non-groundfish species for conservation purposes. Such a situation could occur if evidence presented by a state or federal resource agency clearly demonstrated a non-groundfish conservation concern to be linked to a groundfish fishery. The proposed amendment would allow the Council to address these concerns through this framework process, adhering to the standards and procedures set out in the FMP as amended.

### 1.5 Established Council Management Goals and Objectives

The Council has established goals and objectives for management of the groundfish fishery and incorporated them into the FMP. While these goals and objectives were formulated with respect to

groundfish harvest, they are nevertheless relevant to management actions designed to control by-catch of non-groundfish in groundfish fisheries. Pertinent goals and objectives are excerpted below.

The Council is committed to developing long-range plans for managing the Washington, Oregon, and California groundfish fisheries that will promote a stable planning environment for the seafood industry, including marine recreational interests, and will maintain the health of the resource and environment. In developing allocation and harvesting systems, the Council will give consideration to maximizing economic benefits to the United States, consistent with stewardship responsibilities for the continuing welfare of the living marine resources. Thus, management must be flexible enough to meet changing social and economic needs of the fishery as well as to address fluctuations in the marine resources supporting the fishery. The following goals have been established in order of priority for managing the west coast groundfish fisheries, to be considered in conjunction with the national standards of the Magnuson Fishery Conservation and Management Act (MFCMA).

Goal 1 – Conservation Prevent overfishing by managing for appropriate harvest levels, and prevent any net loss of the habitat of living marine resources.

Objective 2. Adopt harvest specifications and management measures consistent with resource stewardship responsibilities, for each groundfish species or species groups.

Goal 2 – Economics. Maximize the value of the groundfish resource as a whole.

Objective 4. Attempt to achieve the greatest possible net economic benefit to the nation from the managed fisheries.

Goal 3 – Utilization. Achieve the maximum biological yield of the overall groundfish fishery, promote year round availability of quality seafood to the consumer, and promote recreational fishing opportunities.

Objective 7. Develop management measures and policies that foster and encourage full utilization (harvesting and processing) of the Pacific coast groundfish resources by domestic fisheries.

Objective 8. Recognizing the multispecies nature of the fishery, establish a concept of managing by species and gear, or by groups of interrelated species.

Objective 9. Strive to reduce the economic incentives and regulatory measures that lead to wastage of fish.

### Social Factors.

Objective 11. When conservation actions are necessary to protect a stock or stock assemblage, attempt to develop management measures that will affect users equitably.

Objective 12. Minimize gear conflicts among resource users.

Objective 13. When considering alternative management measures to resolve an issue, choose the measure that best accomplishes the change with the least disruption of current domestic fishing practices, marketing procedures and environment.

### 1.6 Proposed Management Alternatives

Alternative 1. (ADOPTED) Amend the FMP (Amendment 7) to authorize implementation of regulations to control by-catch of non-groundfish species for the entire groundfish fishery or any segment of the fishery. This alternative would add a new conservation objective to the goals and objectives section and add a new section to the FMP to establish a rule-making process (i.e., a framework). This framework would allow (but not be limited to) the use of the management measures listed in Section 6.1 of the FMP to reduce by-catch of non-groundfish species in groundfish fisheries when a conservation concern is clearly identified. The new management objective and framework section would not authorize measures whose primary purpose was to allocate catch among gear types or fishers. Adoption of this alternative would not impose any fishing restrictions. However, the first use of this authority by the Council would impose salmon by-catch restrictions on the Pacific whiting fishery similar to the provisions of the 1992 emergency rule.

Alternative 1 would add a new management Objective 4 under the conservation goal in Section 2.1 (renumbering the subsequent objectives) and create a new Section 6.2.4 as follows:

#### Section 2.1 Goals and Objectives for Managing the Pacific Coast Groundfish Fishery

##### Conservation.

Objective 4. Where conservation problems have been identified for non-groundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a non-groundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the by-catch of non-groundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.

### 3.0 BIOLOGICAL AND PHYSICAL IMPACTS

#### 3.1 Principal Non-groundfish Species of Concern

Pacific salmon, primarily chinook and especially those listed as threatened or endangered; sea birds; and marine mammals are the principal species of concern.

#### 3.2 How Might Groundfish Fishing Activities Affect Other Species?

Harvest activities associated with groundfish fisheries have the potential for direct and indirect impacts on non-groundfish species.

3.2.1 Direct Impacts. In addition to the intended harvest of target species, directed groundfish fisheries sometimes, unavoidably, retain non-groundfish species, such as salmon. Mortality associated with this catch may approach 100 percent. Marine mammals or sea birds may be trapped or entangled in groundfish gears and drown. There is also a potential for damage to non-groundfish species by groundfish gears which would not be observable in actual catches; e.g., mortality associated with escapement through trawl cod-ends, gillnets, etc, such as loss of scales or feathers, broken bones, or other trauma. In most cases, such injuries and mortalities would go unobserved, and thus the magnitude of this mortality is extremely difficult to assess.

3.2.2 Indirect Impacts. Non-groundfish species may be affected by the removal with groundfish gears of the forage species upon which they depend. It is difficult, however, to assess the effects of fishing activities upon marine food webs. For example, non-groundfish species could also benefit by directed groundfish fisheries which remove competitors for the same food. The alternatives under consideration do not contemplate management measures to address indirect impacts.

#### 3.3 Impacts of the Alternatives

The intended impact of the proposals is to provide the Council with the tools to respond in a timely manner to by-catch problems identified in the fishery. Because no specific management measures are imposed by this amendment, there is no way to anticipate specific impacts. Any regulation to be implemented under this alternative must be analyzed and supported by an adequate record at the time it is proposed. However, the alternatives under consideration differ in the latitude of actions that can be addressed under the proposed authority. This discussion addresses general impacts only.

Both directed groundfish catch and incidental catches of non-groundfish species could be affected by the management options employed to control non-groundfish by-catch. Of the management options listed in Section 6.1 of the FMP, time and area closures appear to be the most likely to control non-groundfish by-catch in directed groundfish fisheries, such as those included in the 1992 emergency rule to control salmon by-catch in the whiting fishery. In some cases, it may be possible to reduce impacts on non-groundfish species through gear modifications. This approach has been taken in some areas of the U.S.; for example, the turtle excluder devices used in Gulf of Mexico shrimp fisheries. In other cases, fishers experimenting with different trawl doors and web designs have been able to reduce by-catch of certain non-groundfish species. However, it may be inappropriate to require such gear usage for every groundfish species.

The Council has expressed reluctance to utilize either groundfish quotas or prohibited species catch limits to control impacts on non-groundfish species. Each of these approaches is likely to result in reduced groundfish harvests and disruption of groundfish fishing patterns. While some change in fishing patterns may be necessary, the Council wants to avoid situations, such as those that have occurred in Alaska, where groundfish harvests are restrained by by-catch restrictions. Fishery-wide non-groundfish quotas may also fail to restrict by-catch to specific areas of concern, such as those which exist with respect to localized depressed salmon stocks. In addition, if prohibited species catch limits were imposed, there would need to be some means to monitor both effectiveness of and compliance with the regulations. Such monitoring programs are not available at this time for the majority of the groundfish fishery.

Time and area closures may be more appropriate than non-groundfish quota management to control localized non-groundfish by-catch problems while causing less disruption to traditional groundfish fisheries. Traditional directed groundfish fisheries could be disrupted, however, within the time and area strata affected by closures or restrictions.

### 3.3.1 Impacts of Alternative 1 (the preferred alternative)

Alternative 1 would authorize imposition of by-catch management measures on any segment of the groundfish fleet or the entire fleet, including charter boats carrying recreational fishers and individual recreational fishers. Thus, Alternative 1 has the potential to have a greater beneficial impact on non-groundfish species of concern. It would provide the Council with more latitude to respond in a timely manner to problems that may arise in the future. However, little information on by-catch is available other than that collected in the at-sea whiting fishery. Without an improved by-catch monitoring program, it would be difficult to measure any reductions in by-catch rates resulting from regulatory actions.

### 3.3.2 Impacts of Alternative 2

Alternative 2 would limit by-catch management authority to the Pacific whiting fishery only. This is the largest single groundfish fishery under Council management. In addition, the by-catch information base is the best for this fishery, although the nature of the fishery has changed dramatically over the past few years and will continue to do so for at least a few more years. There is little information to indicate by-catch impacts are greater in this fishery than other groundfish fisheries. However, as information becomes available, it may become apparent that other fisheries are more directly impacting non-groundfish species of concern. Thus, in the long term, this alternative is likely to be less effective than Alternative 1 in its effectiveness in reducing overall by-catch problems.

### 3.3.3 Impacts of Alternative 3 (the status quo)

Under the status quo alternative, the Council and NOAA would have no authority (other than emergency authority) to restrict groundfish fishing activities, even to meet the mandates of the ESA or other applicable law. Thus, this alternative has the least potential benefit for depleted or overfished non-groundfish stocks. Due to the Council's mandate to manage the groundfish fishery in the best interest of the nation as a whole, and to comply with the spirit and letter of other federal management and conservation legislation, Alternative 3 is not acceptable.

### 3.4 Biological Impact Summary

Alternative 1 appears to have the greatest potential for addressing biological problems that may arise or be identified. However, the actual amount of benefit that may occur cannot be predicted, since few by-catch problems have been identified to date. Alternative 2, which authorizes by-catch restrictions on the whiting fishery only, may be equally effective as Alternative 1 if the whiting fishery continues to be the only fishery requiring by-catch controls. Alternative 1 can only be superior to Alternative 2 if information demonstrates a need for controls on non-whiting fisheries. Alternative 3 provides no authority to address by-catch problems and is therefore the least beneficial.

## 4.0 SOCIAL AND ECONOMIC IMPACTS

The intention of this amendment is to establish the framework to allow the Council to achieve in a timely manner the necessary conservation results with the minimum possible impact on the various groundfish fisheries. The impacts of any specific regulations implemented under the authority established by this amendment will be analyzed as part of the implementation process. Therefore, this document provides only a general description of the types of social and economic impacts anticipated.

### 4.1 General Social and Economic Impacts

#### 4.1.1 Anticipated Social and Economic Impacts on Groundfish Fishers

The impacts of establishing authority to control by-catch of non-groundfish species depends for a large part on the Council's success in avoiding conditions where the authority will come into play and the groundfish industry's efforts to minimize by-catch of non-groundfish species. If management continues to be oriented to maintaining healthy stock levels, neither of the alternatives to the status quo should be overly restrictive on the groundfish fishery. Likewise, if groundfish fishers recognize the importance of "clean" fishing techniques and adjust their operating procedures when by-catch occurs, there should be little need for the actions under the proposed authority. The amendment specifies that management action will be taken only in cases where groundfish fishing has a demonstrated impact on a non-groundfish species.

In the case of salmon, the majority of the fishing impact comes from directed salmon fisheries, both in the ocean and in the rivers. Overall, by-catch in groundfish fisheries comprises a very small fraction of the fishing mortality. However, fluctuation in recruitment and natural mortality resulting from environmental/ecological factors can influence stock abundance to the point where even a minimal by-catch impact can influence the viability of a non-groundfish species. This is true as well for species other than salmonids.

When management measures are imposed, groundfish fishers may experience increased costs and/or reduced revenues from the proposed action. Increased costs could result from greater travelling costs (to move out of closed areas), increased time searching for fish (if groundfish schools are harder to find during the time or area that remains open), and increased fishing time (if fewer groundfish are available or if they are more dispersed during the open periods and areas). Increased costs could result from required gear changes (different trawl doors, net specifications, etc.). Reduced revenues could occur if a fishery is prevented from taking its established groundfish harvest guideline or quota due to a time/area closure or non-groundfish mortality limit.

These costs may affect some groups of fishers and related industries more than others. For example, a large area closure could affect fishers and fish processors at a particular port or group of ports. Under the 1992 emergency rule, fishing whiting within 100 fathoms in the Eureka area was restricted, while outside the Eureka area the 100 fathom limit did not apply. Whiting fishers in that area may have had to travel farther than normal to comply; however, because the 100 fathom depth contour is nearer to shore in the Eureka area than in the Columbia area, the resulting travel distance in the two areas may have been similar.

The EA/RIR for the 1992 emergency rule to allocate the whiting resource included a description of employment, income sources, and income levels in several coastal counties in Washington, Oregon, and California. That analysis concluded that coastal communities generally have higher unemployment rates and lower average income levels than the respective states and the nation as a whole. Fishing generates a substantial portion amount of revenue for many communities and supports a variety of related industries. Loss or reduction of groundfish fishing opportunities would tend to disrupt social conditions in these areas, especially those already impacted by loss of timber jobs and other income sources. The discussion of social conditions contained in that document is incorporated here by reference. Impacts that may result from the proposed action are difficult to anticipate in the absence of specific proposed regulations. In general, they might include more time away from home and families, and less disposable income.

The new Objective 4, however, specifies that regulatory actions be designed to minimize disruption of the groundfish fishing community.

#### 4.1.2 Anticipated Social and Economic Impacts on Non-groundfish Fishers

Social and economic conditions of the salmon fishing industry and related industries, including recreational fisheries, is included in the document prepared by the Council each year in preparation for the salmon deliberations. General impacts, if salmon stocks recover to previous levels, should be an improvement in available fishing time and more disposable income. The social and economic sections of the Council's annual salmon assessment documents are incorporated here by reference.

#### 4.1.3 Impacts on Consumers

Availability of fish and fish products is not expected to be affected by any of the alternatives considered in this amendment. It is anticipated that continuation of the Council's past management practices will avoid situations where management measures will severely disrupt groundfish fishing operations or reduce groundfish harvest levels.

#### 4.1.4 Social Impact on American Society

Although this amendment does not authorize management measures to achieve allocation or other social objectives, there will be social impacts of any conservation actions taken under this authority. The American public is becoming more concerned about the loss of species from the ecosystem and the costs to society of species becoming depleted to the point of ESA listing. These costs are not just the economic cost to the affected industries but also the more far reaching potential impacts of fishers defaulting on loans, processing plants reducing employment, increased welfare and unemployment burdens, etc. In some sectors of society, there is an emotional impact associated with media reports on environmental degradation, including depletion or loss of species. To some Americans, there is

a social benefit from just the recognition of the by-catch issue and the opportunity for the Council and federal government to take a proactive position. To the extent that the proposed Alternatives 1 and 2 reduce the potential for greater social costs in the future, they can produce a substantial benefit or prevent greater social costs.

#### 4.1.5 Redistribution of Benefits and Costs

No redistribution of costs or benefits is anticipated from any of the alternatives.

#### 4.1.6 Administrative, Enforcement, and Information Costs and Benefits

No additional enforcement costs are anticipated under any of the alternatives if management measures like those used in 1992 are implemented. Additional enforcement costs are only anticipated if prohibited species caps or individual vessel prohibited species limits were imposed. This type of management system would require an at-sea observer program. A broad at-sea observer program would be both expensive and complex.

Measuring by-catch in the groundfish fishery could be an integral part of a rebuilding program for a non-groundfish stock, and could impose costs on the industry and the federal and state governments to provide the necessary information. The benefits of obtaining that information would include a better understanding of the effectiveness of the recovery program and a more accurate schedule for achieving the rebuilding objectives.

Alternatives 1 and 2 could result in higher Council administrative costs if the Council becomes involved in determining specific by-catch rates and attempts to change regulations periodically. More public hearings might be necessary which, along with the need for data analysis, could result in additional operating costs.

### 4.2 Impacts of the Alternatives

#### 4.2.1 Alternative 1

Alternative 1 has the greatest potential impact on groundfish fishers because it would provide authority to restrict the entire fishery. The degree to which groundfish fishers are impacted will depend on their ability to maintain by-catch rates deemed to have an insignificant impact on the species or stock in question. The ability to tailor management measures to the particular groundfish fishery having the by-catch impact, however, depends on the quality of the data available. While the proposed FMP management objective indicates any restrictions should be chosen to minimize disruption of groundfish fisheries, lack of information could result in impacts on "clean" fisheries as well as "dirty" ones. Because whiting fishery data are the best available, it is likely that at least in the short run, Alternatives 1 and 2 will not differ significantly in their impacts. This alternative also has the greatest potential benefit to stocks requiring protection because it provides the framework authority for the entire fishery.

#### 4.2.2 Alternative 2



Alternative 2 has the potential to impact the whiting fisheries. In this case, data are generally more comprehensive than for other target fisheries, and thus it is easier to determine by-catch impacts. It is likely the economic impacts of this alternative would be very similar to those of Alternative 1.

#### 4.2.3 Alternative 3

This alternative provides no authority to implement by-catch restrictions other than by Secretarial emergency. That process, however, does not provide for full public participation and would not necessarily focus on minimizing impacts on the groundfish fishery. Thus, it is possible that if federal action became necessary, the impact would be greater than under either Alternative 1 or 2. In effect, adoption of this alternative would mean the Council was delegating short-term by-catch management responsibility to NMFS. This could result in lower Council administrative costs in the short term, since the Council would not have to spend meeting and staff resources on the emergency rule. If, however, the Council wanted the by-catch measures extended beyond 180 days, the Council would have to specifically amend the FMP to do so. This alternative would not provide authority to control salmon by-catch in the whiting fishery in 1993.

#### 4.3 Socio-economic Impact Summary

No quantitative estimate of social and economic impacts is possible at this time, since no management measures are imposed by this action. Alternative 1 provides the greatest management authority and thus has the potential for the greatest impact on the industry and, likewise, the greatest benefit to any non-groundfish stock of concern.

### 5.0 RELATIONSHIP TO OTHER LAWS AND POLICIES

#### 5.1 Endangered Species Act of 1973 and Marine Mammal Protection Act

The purposes of the ESA are to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, to provide a program for the conservation of such endangered and threatened species, and to take such steps as may be appropriate to achieve the objectives of the treaties and conventions created for these purposes. Section 7 of the ESA requires all federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species. This FMP amendment is intended to authorize specific regulatory action to protect salmon, marine mammals, and other animals listed under the ESA. The proposed action is consistent with both the letter and intent of the ESA and MMPA and extends to other species not listed under the ESA.

Incidental mortality of all marine mammals, including those listed under the ESA, is a rare occurrence in groundfish fisheries according to information collected by NMFS (NMFS 1989 and 1991). With regard to Stellar sea lions, which are listed as threatened, observer and vessel report information collected by NMFS indicate that Stellar sea lions are rarely involved in groundfish fishery interactions off Washington, Oregon, and California. From 1976-1990 (15 years), seven Stellar sea lions mortalities have been reported in the whiting fishery. Based on the available information on the rare incidental mortality of Stellar sea lions in the West Coast groundfish fishery, NMFS concluded in its August 10, 1990 Biological Opinion that the current rate of mortality in the groundfish fishery is not likely to jeopardize the Stellar sea lion population. For Stellar sea lions, incidental taking is

authorized under regulations found at 50 CFR 227.12. Incidental mortality of other marine mammal species is authorized under Section 114 of the MMPA.

With regard to the impacts of the groundfish harvests on marine mammals prey species, there is no evidence that the operation of groundfish fisheries off the coast of Washington, Oregon, and California is displacing marine mammals from essential habitat or depleting populations of forage species. Groundfish stock assessments do take predator removals into account as natural mortality and therefore the determination of allowable harvests should not adversely affect marine mammal food needs. Further, the coastal populations of marine mammals that prey on groundfish are either increasing (e.g., California sea lions, harbor seals, elephant seals) or have remained stable (e.g., Stellar sea lion) for many years according to NMFS (1989), thereby indicating harvests are not adversely affecting these species. This information has been included in several Section 7 consultations (described below) that concluded the groundfish fisheries are not likely to jeopardize the continued existence of any threatened or endangered species.

A July 5, 1989 Biological Opinion prepared by NMFS on its Marine Mammal Exemption Program, concluded that incidental mortality of threatened or endangered marine mammals and marine turtles in association with all west coast fisheries, including groundfish fisheries, is unlikely to jeopardize their continued existence. The U.S. Fish and Wildlife Service (USFWS) also prepared a Biological Opinion dated July 3, 1989, which concluded that the exemption program and related fishing activities, including the groundfish fishery, were not likely to jeopardize the continued existence of any endangered or threatened species under the jurisdiction of USFWS (e.g., seabirds). Since these biological opinions directly addressed the potential impacts of groundfish fisheries, the findings apply to the FMP and this action.

Subsequent to the aforementioned biological opinions, the Sacramento River winter-run chinook salmon and the Stellar sea lion were listed as threatened under the ESA. A Section 7 consultation was therefore re-initiated on Amendment 4 to the FMP. On August 10, 1990, NMFS issued a Biological Opinion that considered the effects Amendment 4 to the FMP may have on the threatened and endangered populations off of the Washington, Oregon, and California coast. The opinion reviewed impacts on marine mammals, sea turtles, and Sacramento River winter-run chinook salmon and concluded that the FMP as amended would not jeopardize the continued existence of any of the species considered.

Substantial changes in the whiting fishery have occurred since issuance of the August 10, 1990 Biological Opinion. The Council therefore requested NMFS re-initiate consultation specifically on the potential effects of the whiting fishery on Sacramento River winter-run chinook. On November 26, 1991, NMFS issued a Biological Opinion that considered the effects of the whiting fishery on Sacramento River winter-run chinook and concluded that the whiting fishery would not jeopardize the continued existence of Sacramento River winter-run chinook. An incidental take statement was included with the opinion. The analysis does indicate that there is some potential for higher salmon by-catch in nearshore areas, but there is insufficient data available to draw any firm conclusions on whether vessels delivering shoreside operate more extensively in nearshore waters than vessels delivering to at-sea processors. The by-catch of salmon from limited data collected on shoreside deliveries in 1992 did not substantially differ from the salmon by-catch observed on vessels delivering at-sea.

On August 28, 1992, NMFS issued a Biological Opinion regarding the impacts of the groundfish bottom trawl fishery and the whiting fishery on all four of the salmon species listed under the ESA. The opinion concluded that "of the listed stocks, Snake River fall chinook salmon are the species most likely to be impacted by the groundfish fisheries. The greatest impacts will occur in the whiting and bottom trawl fisheries." To address the condition of Snake River fall chinook, NMFS has authorized the incidental take of all salmon in the whiting fishery of 0.05 salmon per metric ton of whiting and a by-catch of 9,000 total salmon per year in the bottom trawl fishery. The opinion also concluded that impacts of groundfish fishing on Sacramento River winter-run chinook and Snake River sockeye and spring/summer chinook salmon are negligible. Based on the available information, NMFS concluded that current groundfish operations are not likely to jeopardize the continued existence of these species.

The incidental take statement, however, specifies major points relevant to approval of this proposed action. First, if the bottom trawl fishery in future years changes substantially in magnitude or character compared to 1985-1990, and in particular, if there is increased catch in nearshore areas, or during the winter months, or in the Eureka or Monterey areas, consultation should be re-initiated. Second, if at anytime during the whiting fishery, it is anticipated that the seasonal, coastwide by-catch rate will exceed 0.05 salmon per metric ton of whiting, then consultation must be re-initiated and the Council must take action to implement additional management measures to reduce the by-catch rate such that the annual authorized take limit can be met. If and when it becomes apparent, based on analyses by either NMFS or the Council that management measures cannot adequately reduce the by-catch rate to the prescribed level, consultation must be re-initiated. Third, the incidental take statement specifies that targeted harvest of whiting inside of 100 fathoms in the Eureka management area will not be allowed. Thus, the Council must establish the authority to impose at least this restriction.

Over the past ten years, the State of California has regulated the groundfish set net fishery in state waters to achieve a variety of management objectives. Many of these actions were designed specifically to reduce and minimize entanglement mortality of marine mammals and birds. In other cases, the primary management objective was to reduce competition among competing user groups. This FMP amendment would authorize the Council to recommend and the Secretary to implement federal management measures specifically intended to address identified resource depletion issues.

This amendment is within the realm of activities considered in the aforementioned opinions that apply to the groundfish fishery. This amendment will provide the Council and the Secretary with the authority to implement regulations to reduce the impact of groundfish fishing activities on threatened and endangered species and will therefore have a positive effect. In addition, it provides the opportunity for proactive management to prevent species declines that might otherwise lead to listing under ESA. The expected effects of this amendment on threatened and endangered species are positive. Therefore, re-initiation of consultation is not necessary for this amendment because it is unlikely to adversely affect any threatened or endangered species and is within the scope of past biological opinion conclusions that the groundfish fishery is unlikely to jeopardize the continued existence of species listed as threatened or endangered under the ESA.

## 5.2 Coastal Zone Management Act of 1972 (CZMA)

The relationship of the FMP to the CZMA is discussed in Section 11.7.4 of the FMP. The Council believes none of the proposed alternatives in Amendment 7 interferes with any of the goals of the

coastal zone management programs of Washington, Oregon, and California. Amendment 7 is consistent, to the maximum extent practicable, with the applicable state programs within the meaning of Section 7(c)(1) of the CZMA. For example, the Washington Shoreline Management Act, Goal 19 of the Oregon Coastal Zone Management Program, and Section 30230 of the California Coastal Zone Management Plan each reference maintenance of healthy populations of marine species. Amendment 7 will provide the Council and the Secretary the authority to ensure that groundfish fishing operations do not threaten the health and productivity of other marine animals. NMFS will correspond with the responsible state agencies under Section 307 of the CZMA to obtain their concurrence in this finding.

### 5.3 Executive Order 12291

EO 12291 requires that the following three issues be considered.

- (a) Will the action have an annual effect on the economy of \$100 million or more?
- (b) Will the action result in a major increase in the costs or prices for consumers, individual industries, federal, state, or local government agencies or geographic regions?
- (c) Will the action have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S. based enterprises to compete with foreign enterprises in domestic or export markets?

Fishing restrictions do impose costs and cause redistribution of costs and benefits. However, the proposed regulatory action and alternatives do not impose fishing restrictions but merely revise the appendix to the federal regulations (i.e., the part that describes regulatory authority and process). Thus, there is no cost to the industry.

Likewise, neither the proposed action nor any of the alternatives would have significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S. based enterprises to compete with foreign enterprises in domestic or export markets.

The proposed action should not lead to a substantial increase in the price paid by consumers, local governments, or geographic regions since no significant quantity changes are expected in the groundfish markets. Where more management effort is required, costs to state and federal fishery management agencies will increase.

In summary, the analysis presented above indicates that the proposed action would not be a "major rule" because it will not result in 1) an annual effect on the economy of \$100 million or more; 2) a major increase in costs or prices for consumers, individual industries, federal, state or local government agencies, or geographical regions; or 3) significant adverse impacts on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete in domestic or export markets.

#### 5.4 Findings of No Significant Impact

For the reasons discussed in this document, neither implementation of the proposed alternative or the status quo would significantly affect the quality of the human environment, and the preparation of an Environmental Impact Statement on the final action is not required by Section 102 (2)(C) of the National Environmental Policy Act or its implementing regulations.

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Assistant Administrator for Fisheries, NOAA

## 6.0 COORDINATION AND CONSULTATION

Development of this EA was coordinated with the Council's GMT members, NMFS scientists and managers, and NOAA General Counsel. In addition, copies of this document have been provided to the North Pacific Fishery Management Council and its industry advisory panel. The details of the proposed action and alternatives were developed and discussed by the Council at its July 1992 public meeting and thereby included comments and input by the affected industry and the public. Additional public input and Council discussion occurred at the September 1992 Council meeting; a public hearing specific to this amendment is scheduled for November 9 in Eureka, California, and a final hearing will be held the week of November 16, 1992 when the Council makes its final recommendation on this issue.

## 7.0 LIST OF PREPARERS

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## 8.0 PROPOSED CHANGES TO THE FMP

Proposed Amendment 7 would make the following changes to the FMP (as amended through Amendment 6).

(1) Section 2.1 Goals and Objectives for Managing the Pacific Coast Groundfish Fishery – add the following Objective 4 under Conservation, and renumber subsequent objective accordingly.

**Objective 4.** Where conservation problems have been identified for non-groundfish species and the best scientific information shows that the groundfish fishery has a direct impact on the ability of that species to maintain its long-term reproductive health, the Council may consider establishing management measures to control the impacts of groundfish fishing on those species. Management measures may be imposed on the groundfish fishery to reduce fishing mortality of a non-groundfish species for documented conservation reasons. The action will be designed to minimize disruption of the groundfish fishery, in so far as consistent with the goal to minimize the by-catch of non-groundfish species, and will not preclude achievement of a quota, harvest guideline, or allocation of groundfish, if any, unless such action is required by other applicable law.

(2) Section 6.0 MANAGEMENT MEASURES

Add a new Section 6.2.4 as follows.

### Section 6.2.4 Management Measures to Protect Non-groundfish Species

Groundfish fishing activities may directly impact certain non-groundfish species, and this FMP authorizes implementation of measures to control groundfish fishing to share conservation burdens identified under overfishing definitions adopted by the Council, the ESA, or other applicable laws, while minimizing disruption of the groundfish fishery. Specifically, the intention is to reduce by-catch or other direct mortality of any species. Section 6.1 of this FMP lists nine principal measures which traditionally have been found most useful in controlling fishing mortality. Any of these measures may be employed to control fishing impacts on non-groundfish species. However, allocation may not be the primary intention of any such regulation.

The process for implementing and adjusting such measures may be initiated at any time. In addition, some measures may be designated as routine (see Section 6.2.1), which will allow adjustment at a single meeting based on relevant information available at the time if (1) the modification is proposed for the same purpose as the original measure, and (2) the impacts of the modification are within the scope of the impacts analyzed when the measure was originally classified as routine.

Generally, the Council will initiate the process of establishing or adjusting management measures when a resource problem with a non-groundfish species is identified and it has been determined that groundfish fishing regulations will reduce the total impact on that species or stock. It is anticipated this will generally occur when a state or federal resource management agency (such as the U.S. Department of the Interior, NMFS, or state fishery agency) or the Council's STT presents the Council with information substantiating its concern for a particular species. The Council will review the information and refer it to the SSC, GMT, STT, or other appropriate technical advisory group for evaluation. If the Council determines, based on this review, that management measures may be



necessary to prevent harm to a non-groundfish species facing conservation problems or to address requirements of the ESA, MMPA, other relevant federal natural resource law or policy, or international agreement, it may implement appropriate management measures in accordance with the procedures identified in Section 6.2. The intention of the measures may be to share conservation burdens while minimizing disruption of the groundfish fishery, but under no circumstances may the intention be simply to provide more fish to a different user group or to achieve other allocation objectives.

